cence.—*Bulletins et Mémoires de la Société de Chirurgie de Paris*, 1894, t. xx, p. 625.

III. Experimental Appendicitis; some Researches as to the Mechanism of Perforation of the Appendix. By M. Roux (Lausanne). The mechanism of perforation of the appendix is little known; it has been attributed to an ulceration caused by the presence of a calculus, to an ulcerative lesion caused by compression of the vessels, to a dilatation of the appendix from retention of mucus, and, finally, to an infective process.

M. Roux has studied the question experimentally, and chose swine as suitable subjects. The colon was drawn out, the cæcum isolated, and an artificial appendix made by passing a row of parallel silk threads around it just beneath the serous coat, and drawing them moderately tight. Farther up in the cæcum an incision was made, and through this foreign bodies were introduced. Sixty-seven swine, and two dogs were thus operated upon; the two dogs died in twenty-four hours from gangrenous peritonitis. Two swine also died from faulty technique; the others bore the operation with scarcely any reaction.

The results as to a formation of an artificial appendix were good. The silk cut through, and was passed from the anus, the pocket persisted. At the end of some months the foreign body had disappeared, the mucous membrane was found to be intact. In a single case a suppurating appendicitis was produced.

The presence of a foreign body alone, therefore, was not sufficient to cause perforation; some other factor must be added. M. Roux thinks that upon the occurrence of a traumatism or a chill the mucosa becomes turgid, presses firmly upon the foreign body, and the circulatory disturbances which result ultimately lead to gangrene and perforation.—*Transactions of the French Congress of Surgery*, 1894.

IV. The Radical Cure of Umbilical Hernia, with a Series of Twenty-nine Cases (Eighteen Umbilical, Eleven Epigastric. M. Lucas-Championnière (Paris). Umbilical and epi-

gastric hernias are not submitted to the operation for radical cure as frequently as are the other forms of hernia, but, notwithstanding the disinclination on the part of both patients and of physicians to have the operation performed, Champonnière has operated a number of times, and the statistics of his results are of great value. It is time to draw attention to the necessity of making the operation a more common one, and to it should be applied all of the principles of radical cure of hernia in any situation.

Ordinarily such hernias are permitted to become of enormous size. They cause great inconvenience. They are, practically speaking, never controlled by bandages, even by those which support their weight, and give relief from the sense of pressure. They should be classed with those conditions which lead to a rapid organic decadence of strength, such as diabetes, albuminuria, and early senility. They are nearly always complicated by obesity and pulmonary emphysema. One should not think that if they are allowed to steadily develop in size and severity that one will still remain master should the question of cure arise. Even after the most successful operations upon large umbilical hernias, there is always great danger of a recurrence in the cicatrix, and still more in the lateral portions where the wall is weak. On the other hand, when the operation is performed with the hernia still small, permanent radical cures may be obtained.

Umbilical hernia presents itself in such a great variety of forms that it is impossible to lay down any exact rules for the manner in which the operation should be performed. Nevertheless, as in other hernias, the general indications are as follows: obliteration of the hernial sac, firmly uniting the membranes which form the constricting ring, and a final apposition of the walls by tiers of sutures so that the cicatrix will be as firm as possible.

The excision of the umbilicus is a necessity in most cases where the sac is dissected away. In case the hernia complicated a cyst of the ovary, the umbilicus may be very large.

The greatest difficulty in cases where the hernia is very large lies in the treatment of the abdominal wall, for if there be consider-

able tension allowed to exist after the operation the chances of recurrence are greatly increased. Championnière strongly recommends that all of the hernial omentum be resected, and as much more as can be drawn out. In the operations which he has done, he has cut away masses of omentum weighing, respectively, 573, 482, 412, 245, 423, 272, and 95 grammes; the hernias were, therefore, in many cases large ones, and the removal of such large masses of tissue materially reduced the danger of a recurrence.

Not being able to cross the layers as in an inguinal hernia, he multiplied the tiers of suture; first suture of the serosa, by either interrupted or purse-string sutures; then a fibro-muscular layer; then a second fibro-muscular layer in front of the first; then a third fibro-muscular layer passing behind the other two. This firm cicatrix having been constructed, the skin was united with drainage provided for just beneath it.

In those cases where the hernial mass did not exceed the size of an egg the immediate and final results have been excellent. In the hernias of larger size the results were also good, but the danger of a recurrence is very great. In the largest one upon which he operated (seventy-five centimetres in circumference) the scar was still firm at the end of two years; somewhat later it became weakened, and a recurrence appeared. In case of these large hernias the wearing of a belt prevents and retards the return of the trouble.

The omentum is no protection to the wall, and is a source of weakness in case it becomes adherent.

Notwithstanding the co-existence of many grave complications, the results in all of the eighteen cases have been good.

He believes that the true surgical treatment of umbilical hernia consists in an early operation, and in never permitting the hernia to become of large size.

Considering the extreme gravity as regards the general health of the patient if the hernia steadily increases, the danger of strangulation of the hernia, and the danger of a fatal result if the size be very large at the time of operation, M. Championnière advocates the operation at the beginning of the hernia.

Championnière has also operated upon eleven cases of epigastric hernia, one patient having two hernias of this variety. As contrasted with umbilical hernia, this form of hernia never tends to materially increase in size, and, instead of being almost painless, is usually the cause of severe distress, with vomiting and a variety of intestinal lesions which are difficult to explain in many cases. The palliative treatment of this condition has little to offer. In only one case of those observed was a bandage able to give any relief.

The operation is easy and the results are efficacious and satisfactory. The hernial orifice should be freely incised; the sac drawn out and opened, and the omentum which it contains detached and excised. After ligating the pedicle of the sac it is cut off as much as possible. The walls of the wound are then sutured together; first a line of sutures in the serosa, and then a second tier is introduced to strengthen the first. The skin wound may be closed with or without drainage.

This operation was in all cases followed by the best results; the wound remained firm, and in no case was there a recurrence of the hernia. The difference in character between these two forms of hernia, which are such near neighbors in point of position, is quite remarkable.—*Transactions of the French Congress of Surgery*, 1894.

HENRY P. DE FOREST (Brooklyn).

V. Telescopic Anastomosis of Sigmoid Flexure of Colon into Lateral Opening in Rectum. By HOWARD A. KELLY, M.D. (Baltimore). The patient was a woman, twenty-two years of age, suffering from an artificial anus, sequel to an attempt to enucleate and remove the uterine appendages which were involved in an extensive mass of pelvic exudate, in the course of which attempt, after one tube and ovary had been removed, a section of a contracted and thickened sigmoid flexure had been mistaken for the remaining tube and had been tied off and excised. When this mistake was recognized, the cut ends of gut were sewed into the abdominal wound and the operation abandoned. Two months later the patient came